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HISTORY OF GARDEN VEGETABLES.

BY E. LEWIS STURTEVANT, A.M., M.D.¹

(Continued from page 133.)

AUSTRALIAN SPINAGE (?). *Chenopodium auricomum* Lind.

A NATIVE of Australia, Darling River to Carpentaria and Arnheim's Land, a tall perennial herb furnishing a nutritious and palatable spinage.² It does not appear in any way superior to the Garden Orach, except, perhaps, for warm climates.³ It is mentioned as under culture in England in 1867,⁴ but it has apparently not yet become common or general.

BALM. *Melissa officinalis* L.

This aromatic perennial, a native of the Mediterranean countries, has long been an inmate of gardens for the sake of its herbage, which finds use in seasonings and in the compounding of liqueurs and perfumes, as well as the domestic remedy known as balm tea. The culture was common with the ancients, as Pliny⁵ directs it to be planted, and as a bee plant or otherwise it finds mention in the Greek and Latin poets and the prose writers.⁶ It is mentioned in France by Ruellius⁷ in 1536; in England by Gerarde,⁸ 1597, who gives a most excellent figure, and also by Lyte⁹ in 1586, and Ray¹⁰ in 1686. Mawe,¹¹ in 1758, says great quantities are cultivated about London for supplying the markets. In the United States it is included among garden vegetables by McMahon¹² in 1806.

As an escape the plant is found in England,¹³ and sparingly in the Eastern United States.¹⁴ Bertero¹³ found it wild on the island of Juan Fernandez.

But one variety is known in our gardens, although the plant

¹ Director of the New York Agricultural Experiment Station, Geneva.² Mueller, Sel. Pl., 1876, 49.³ Vilmorin, The Veg. Gard., 377.⁴ Gard. Chron., 1867, 1215.⁵ Pliny, lib. xxi. c. 41.⁶ Theocritus, Idyll., iv. 25; Dioscorides, iii. 118; Varro, iii. 16; Columella, ix. 9; Virgil, Georgics, iv.; as quoted by Grandsagne, Pliny, vol. xiii. p. 485.⁷ Ruellius, De Stirp., 1536, 733.⁸ Gerarde, Herbal, 1597, 558.⁹ Lyte, Dod., 1586, 293.¹⁰ Ray, Hist., i. 570.¹¹ Mawe's Gard., 1758.¹² McMahon, Am. Gard. Kal., 1806.¹³ De Candolle, Geog. Bot., 681, 721.¹⁴ Gray, Syn. Fl. of N. A., ii., Pt. i., 361.

is described as being quite variable in nature. This would indicate that cultivation had not produced great changes. The only difference I have ever noted in the cultivated plant has been in regard to vigor. A variegated variety is recorded by Mawe² in 1778 for the ornamental garden, and is yet to be found.²

The names which have been given in various languages are: English, *bawme*, Lyte, 1586, *baulm*, *balm*, Blackw., 1750; Danish, *hertensfryd*, Vil., 1883; French, *melissa*, Ruel., 1536, *melisse*, Dod., 1616, *melisse citronnelle*, Vil., 1883; German, *Melissenkraut*, *Mutterkraut*, Lyte, 1586, *Citronem-Melisse*, Vil., 1883; Greek, *melissootanon*, *melissohorton*, Sibth.; Holland, *consilie de greyn*, *melisse*, Lyte, 1586, *citroen-melisse*, Vil., 1883; Italy, *cedronella*, *herba rosa*, Lyte, 1586, *melissa*, Dod., 1616, Vil., 1883; Spain, *torongil*, *yerva eidrera*, Lyte, 1586, *torongil*, *citronella*, Vil., 1883.

BASELLA. *Basella* sp.

The *Basella* species are natives of tropical Asia, and the leaves have been employed as a food in India and China. They have furnished a spinage plant to European gardeners now for many years.

Basella alba L.

This species is cultivated in Burmah³ for spinage, in the Philippines⁴ seemingly wild and eaten by the natives. It is also cultivated in the Mauritius,⁵ and in every part of India,⁶ where it occurs wild.⁷ It was introduced to Europe in 1688,⁸ and was grown in England in 1691,⁹ but these references can hardly apply to the vegetable garden. It is, however, recorded in French gardens in 1824 and 1829.¹⁰

The vernacular names in Europe are: English, *White Malabar Nightshade*; Flanders, *Meier*; France, *Baselle blanche*, *Epinard blanc de Amerique*, *Epinard blanc de Malabar*; Germany, *In-discher gruner Spinat*, *Malabar Spinat*; Italy, *Basella*; Spain, *Basela*.¹¹

¹ Mawe, l. c.

² Les Fleurs de Pleine Terre, 13th ed., p. 692.

³ Mason, v. 472-780; quoted from Pick. Ch. Hist., 696.

⁴ Blanco; quoted from Pick. Ch. Hist., 696.

⁵ Bojer, Hort. Mauriti., 1837, 270.

⁶ Drury, Useful Plants of India, 66.

⁷ Wight, ic., pl. 896.

⁸ Noisette, Man. du Jard., 559.

⁹ Mill. Dict., 1807.

¹⁰ L'Hort. Franc., 1824; Noisette, l. c., 1829.

¹¹ Vilmorin, Les Pl. Pot., 30.

In the Mauritius, *gandolle blanc*;¹ in the Indian languages, Bengali, *sufed-pooi*; in Telinga, *allu-batsalla*; in Hindustani, *poi*;² in Burmah, *gyen baing*,² etc.

Basella cordifolia Lam. (*B. lucida* Lam.)

This species is cultivated in all parts of India,³ and is the *Calaloe* of Barbadoes.⁴ It was imported from China to France in 1839,⁵ and is now known under the name of *Baselle de Chine a tres larges feuilles*. Its greater expanse of leaves makes it more desirable as a spinage plant than the other species.

The vernacular names in India are: Bengali, *pooi*shak; Telinga, *pedda-batsella*; Hindustani, *pooi*.⁶

Basella nigra Lam.

This species is found in Cochin China and China, both wild and uncultivated,⁷ and Livingston⁸ says the leaves are much esteemed when boiled. It is very likely but a variety of the other species.

Basella rubra L.

This Indian species is cultivated as a spinage plant in many places. In 1638, according to the "Hortus Malabaricus," seed was sent from Ceylon to the botanic garden at Amsterdam,⁹ and Ray,¹⁰ in 1704, describes it as cultivated in gardens. No mention of it in kitchen gardens, however, occurs before the present century. It is mentioned in French works on gardening in 1824, 1826, and 1829,¹¹ and in the Mauritius in 1827.¹² Bretschneider¹³ has found mention of it as a cultivated vegetable in Chinese authors of the sixteenth century, 1640, and 1742. Kaempfer describes it as a Japanese plant, and Rumphius as of Amboina.

The European names are: *Red Malabar Nightshade* in Eng-

¹ Drury, l. c.

² Pickering, Ch. Hist. of Pl., 696. Other names will be found in Birdwood, Veg. Prod. of Bomb., 177.

³ Firminger, Gard. in Ind.; Drury, l. c.

⁴ Maycock, Fl. Barb., 131.

⁵ Vilm., l. c.

⁶ Drury, l. c.

⁷ Loureiro, Fl. Cochinch., 183.

⁸ Livingston, Hort. Trans., v. 54.

⁹ Mill. Dict., 1807.

¹⁰ Ray, Hist. Suppl., 1704, iii. 358.

¹¹ L'Hort. Franc., 1824; Petit, 1826; Noisette, 1829.

¹² Bojer, l. c.

¹³ Bretschneider, Bot. Sin., 59, 83, 85.

lish; in France, *Baselle rouge*, *Epinard rouge d'Amerique*, *Epinard rouge de Malabar*; in Germany, *Rother Malabar-spinat*.¹

The extra European names I find are as follows: Mauritius, *bredes gandolle ou d'Angole*; ² in Japan, *murasakki*; ³ in India, *poe sag*; ⁴ in Sanscrit, *pootika*; in Bengali, *racta-bun-pooi*; in Telinga, *yerra-batsalla*; in Ceylon, *rat-niwiti*.⁵

BASIL. *Ocimum* sp.

Various kinds of basil have been grown in vegetable gardens since a remote period, for the sake of the aromatic foliage which serves as a seasoning. In 1778, Mawe names thirteen varieties, the broad-, narrow-, and fringed-leaved, the dark green, the large purple and the fringed purple, the tricolored, the curled- and the studded-leaved, the red- and the purple-flowered, the long-spiked and the short-spiked. At the present time Vilmorin describes ten kinds as serviceable for the kitchen garden. In 1612, "Le Jardinier Solitaire" devotes a section to directions for culture, and Quintyne, in 1693,⁶ grew basil among hot-bed plants. According to Miss Bird,⁷ the seeds are eaten in Japan.

Ocimum basilicum L.

This species is a very variable one, and furnishes a number of botanical varieties. It includes the large varieties of our gardens, in both the green- and purple-foliaged, the large-, medium-, and narrow-leaved. It is a native of tropical Asia, and is described for India by Drury, for Cochin China by Loureiro, for Amboinia by Rumphius, for Malabar by Rheede, etc. It was probably known to the ancients, but the commentators are often in doubt as to the name. Fee⁸ thinks it the *okimon* of Hippocrates, Theophrastus, and Dioscorides, the *ocimum hortense* of Columella and Varro. It reached England on or before 1548, according to McIntosh;⁹ certain it is, it is not mentioned by Turner in his "Libellus," 1538, and is well known to Lyte in 1586. It occurs in all the American works on gardening, commencing with 1806.

¹ Vilm., l. c.

² Bojer, l. c.

³ Kaempfer, Amoen., 1712, 784.

⁴ Speede, Ind. Handb. of Gard., 1842, 155.

⁵ Birdwood, Veg. Prod. of Bomb., 177.

⁶ Quintyne, Comp. Gard., 1693, 188.

⁷ Unbeaten Tracks in Japan, i. 238.

⁸ Fee, Notes in Grandsagne's Pliny.

⁹ McIntosh, Book of the Gard., ii. 237.

In our synonymy we can include all the varieties named by Vilmorin as in present culture, and all those mentioned in the vernacular by less recent writers. A careful examination seems to justify the following attempts :

I.

- Ocimum mediocre.* Fuch., 1542, 548.
Basilica minor. Trag., 1552, 30.
O. parvum. Matth., 1558, 268.
O. medium vulgatus. Adv., 1570, 215; Lob. Obs., 1576, 268.
O. secundum. Cam., Epit., 1586, 309.
O. medium. Lugd., 1578, 680.
O. medium citratum. Ger., 1597, 547.
Basilicum medium. Hort. Eyst., 1613, Æst. ord., 7, fol. 9.
O. vulgaris. Bauh., Pin., 1623, 226.
 ? *O. basilicum* L. Sp., 2d ed., 833.
Basilic grand vert and grand violet. Vil., 1883, 31.
Sweet Basil and Purple Sweet Basil.

II.

- Ocimum magnum.* Fuch., 1542, 549.
Basilica major. Trag., 1552, 31.
O. max. caryophyllatum. Lob. Obs., 1576, 268; *ic.*, 1591, i.
 503.
Ocimum. Cam., Epit., 1586, 308.
O. maximum. Lugd., 1587, 679.
O. garyophyllatum majus. Bauh., Phytopin., 1596, 425.
O. magnum. Ger., 1597, 547.
 ? *O. basilicum*, var. *b.* Lin., Sp., 2d ed., 833.
Basilic a feuilles large. De C., Fl. Fran., 1815, iii. 570.

III.

- Ocimum anisatum.* Hort. Eyst., 1613, Æst. ord., 14, fol. 2.
Basilic anise. Vil., 1883, 32.

IV.

- Ocimum latifolium crispum.* Matth., 1598, 408.
O. crispum viride. Hort. Eyst., 1613, Æst. ord., 7, fol. 10.
O. foliis fimbriatis viridis. Bauh., Pin., 1623, 225.
O. Sancto mauritanum. J. Bauh., 1651, iii. 249.;

O. Basilicum L., var. *f.* Benth.

Basilic frise. Vil., 1883, 32.

V.

Ocimum latifolium magnum. Hort. Eyst., 1613, Æst. ord., 7, fol. 10.

O. viride foliis bullatis. Bauh., Pin., 1623, 225.

O. basilicum, var. *d.* Lin., Sp., 2d ed., 833.

O. bullatum. Lam. ex De C., Fl. Fran., 111, 570.

Basilic a feuilles de laitue. Vil., 1883.

In the European languages Basil or Sweet Basil is called, in Denmark, *basilikum*; in Flanders, *basilik*; in France, *basilic grand*, *B. aux sauces*, *B. des cuisiniers*, *B. romain*, *herbe royale*; in Germany, *Basilicum*,¹ *Basilien*, *Basilgram*; ² in Italy, *basilico*; in Portugal, *manjericao*; ¹ in Russia, *wasilik*; ³ in Spain, *albaca*, *albahaca*.²

Outside of Europe it is called, in Arabic, *ryhan*,⁴ *riban*, *habak*; ⁵ in Sanscrit, *manjirika*; ⁶ in Bengali, *barbooitulsee*; in Hindustani, *kala-tulsee*, *pashana cheddu*; in Tamil, *tirnoot-patchie*; in Telinga, *vepoodipatsa*; ⁷ in Persia, *deban-shab*, *nazbro*, *ungooshtkuneezuckan*,⁶ etc.

Ocimum gratissimum L.

This species is recorded as indigenous from India, the South Sea islands, and Brazil.⁸ According to Loureiro,⁹ it occurs in the kitchen gardens of Cochin China. It was cultivated in England in 1752 by Mr. Miller.¹⁰ Forskal¹¹ gives as the Arabic name, *hobokbok*. In French gardens¹² this plant is called *basilic en arbre*. Vilmorin thinks, however, that the French form may be the *O. suave* Willd., but of this he is not certain.

Ocimum minimum L.

This smaller species is a native of India, but is recorded from Cochin China and from Chili. From its compact form it is much grown in gardens, and has furnished several varieties. It is not

¹ Vilmorin, Les Pl. Pot., 31.

³ McIntosh, Book of the Gard., ii. 238.

⁵ Forskål, Fl. Æg. Arab., c. xiv.

⁶ Birdwood, Veg. Prod. of Bomb., 64, 241.

⁸ Mueller, Sel. Pl., 1876, 143.

¹⁰ Miller's Dict., 1807.

¹² Vilmorin, l. c.

² Camerarius, Epitome, 1586, 308.

⁴ Delile, Fl. Ægypt, illust.

⁷ Drury, Useful Pl. of Ind., 326.

⁹ Loureiro, Fl. Cochinch., 369.

¹¹ Forskal, l. c.

mentioned in Turner's "Libellus," 1538, and hence had probably not reached England at this time. It has been known in American gardens from the commencement of the present century, and probably earlier.

The synonymy can be established as below :

I.

Ocimum exiguum. Fuch., 1542, 547.

O. minimum amaraci figura caryophyllata. Adv., 1570, 215 ; Lob. Obs., 1576, 269.

O. caryophyllatus. Lugd., 1587, 681.

O. minus garyophyllatum. Ger., 1597, 547.

O. garyophyllatum. Matth., 1598, 407.

Basilico minore. Cast. Durante, 1617, 64.

O. minimum. Bauh., Pin., 1623, 226 ; J. Bauh., 1651, iii. 247 ; Ray, 1686, i. 541.

O. mimimum. L., Sp., 833.

Bush basil. Lyte, 1586 ; Ger., 1597 ; Ray, 1686 ; Burr, 1863.

Basilic fin, vert and violet. Vilm., 1883, 33.

II.

Ocimum min. caryophyllatum. Hort. Eyst., 1613, Æst. ord., 7, fol. 10.

Basilic fin vert compact. Vil., Alb. de Clich., n. 43077.

Compact Bush-basil. Vil., Veg. Gard., 1885, 19.

Bush basil is called in India *Sofed toolsee* ;¹ in Italy, *Basilico gentile*, *Basilico garosonato* ;² in France, *Basilic fin* ; in Spain, *Albaca menuda*, *A. fina*.³

We certainly cannot find in basil an illustration of great modifications which have been produced by cultivation, nor can we suspect that there are any well-marked varieties of modern origination.

BEAN. *Phaseolus vulgaris* L.

When the bean was first known it was an American plant, and had a culture extending over nearly the whole of the New World, as it finds mention by nearly all the early voyagers and explorers, and while the records were not kept sufficiently accurate to justify identification in all cases with varieties now known, yet the

¹ Speede, Ind. Handb. of Gard., 184.

² Cast. Durante, 1617.

³ Vilmorin, l. c.

mass of the testimony is such that we cannot but believe that beans as at present grown were included. A partial list of such testimony I have given heretofore,¹ and hence it need not be repeated. The marvellous number of varieties known are indication of antiquity of culture, and when kept from crossing these varieties come true and perpetuate indefinitely characters which appear in the seed. From seed apparently on type, however, through atavism, other varieties may appear, and to one unfamiliar with the types might be considered as sports, and as proof of the variable nature of the plant.²

Commentators have quite generally considered this species as among the plants cultivated by the ancients, and De Candolle,³ who has given the subject much thought, thinks the best argument is in the use of the modern names derived from the Greek *fasiolos* and the Roman *faseolus* and *phasiolus*. In 1542, Fuchsius⁴ used the German word *Faselen* for the bean; in 1550, Roszlin⁵ used the same word for the pea, as did also Tragus⁶ in 1552. Fuchsius gives also an alternative named *welsch Bonen*, and Roszlin *welsch Bonen* and *welsch Phaselen* for the bean, and the same word, *welsch Bonen*, for the bean is given by Tragus, 1552, and Kyber,⁷ 1553. This epithet, *welsch* or *foreign*, would seem to apply to a kind not heretofore known. Albertus Magnus,⁸ who lived in the thirteenth century, used the word *faselus* as denoting a specific plant, as "*faba et faseolus et pisa et alia genera leguminis*," "*cicer, faba, faseolus*." He also says, "*Et sunt faseoli multorum colorum, sed quodlibet granorum habet maculam nigram in loco cotyledonis*." Now the *Dolichos unguiculatus* L. is a plant which furnishes beans with a black eye, as grown by me, and appears the same with many varieties of the "cow pea" of the Southern States, and is stated by Vilmorin to be grown in Italy in many varieties. I have before me, as I write, two hundred and nineteen bottles of beans, each with a distinct name (many, however, synonymes), and not one of these beans has a black eye. I have before me the seed of

¹ Kitchen Garden Plants of Am. Origin, Am. Naturalist, May, 1885, 448, 452.

² See Proc. of Am. Asso. for Adv. of Sc., 1885, xxxiv. 283.

³ De Candolle, Orig. des Pl. Cult., 271.

⁴ Fuchsius, De Hist. Stirp., 1542, 708.

⁵ Roszlin, Kreuterbuch, 1550, 149.

⁶ Tragus, De Stirp., 1552, 611.

⁷ Kyber, Lexicon, 1553, 404.

⁸ Albertus Magnus, De Veg., Jessen ed., pp. 118, 167, 515.

Dolichos unguiculatus and twelve named varieties of the cow pea, and all have a circle of black about the white eye, also one variety of cow pea all black, with a white eye, and one red speckled form without the black. It seems, therefore, reasonable to conclude that the *faselus* of Albertus Magnus was a *Dolichos*. In the list of vegetables Charlemagne ordained to be planted on his estates occurs the word *fasiolum*, without explanation.¹

Passing now to the Roman writers, Columella² speaks of the "longa fasellus," an epithet which well applies to the pods of the *Dolichos*; he gives directions for field culture and not for garden culture, recommending the seeding to be four *modii per jugerum*, and he recommends planting in October. Pliny³ says the pods are eaten with the seed, and the planting is in October and November. Palladius⁴ recommends the planting of *faselus* in September and October, in a fertile and well-tilled soil, four *modii per jugerum*. Virgil's⁵ epithet, "vilemque phaselum," also indicates field culture, as to be cheap implies abundance.

Among the Greek writers, Aetius,⁶ in the fourth century, says the *Dolichos* and the *phaseolus* of the ancients were now called by all *lobos*, and by some *melax* (smilax ?) *kepea*. This word *lobos* of Aetius is recognizable in the Arabic *loubia*⁷ applied to *Dolichos lubia* Forsk., a bean with low stalks, the seed ovoid, white, with a black point at the eye. Galen⁸ says the *lobos* was called by some *phasiolos*.

From these and other clues to be gleaned here and there from the Greek authors, I am disposed to think that the low bean of the ancients was a *Dolichos*, and that the word *phaselus* referred to this bean whenever used throughout the middle ages in speaking of a field crop.

The Roman references to *phaseolus* all refer to a low-growing bean fitted for field culture, and so used. There is no clear indication to be found of garden culture. Aetius seems the first among the Greeks to refer to a garden sort, for he says the *lobos* are the only kind in which the pod is eaten with the bean, and

¹ Quoted from De Candolle, Orig. des Pl. Cult., 272.

² Columella, lib. x. l. 378; lib. ii. c. 10; lib. xi. c. 2.

³ Pliny, lib. xviii. c. 33.

⁴ Palladius, lib. x. c. 12; lib. xi. c. 1.

⁵ Virgil, Georgics, i. 227.

⁶ Quoted by Bodæus a Stapel, Theophrastus, 1644, 925.

⁷ Delile, Mem. sur les Pl. cult. en Egypte, 24.

⁸ Galen, De Aliment, c. xxviii.

he says this *lobos* is called by some *melax kepea* (*smilax hortensis*), the *dolichos* and *phaseolus* of his predecessors. Galen's use of the word *lobos*, or the pod plant, would hence imply garden culture in Greece in the second century.

The word *loubion* is applied by the modern Greeks to the *Phaseolus vulgaris*, as is also the word *loba* in Hindustani. The word *lubia* is applied by the Berbers, and in Spain the form *alubia* to the *Phaseolus vulgaris*.¹ The words *fagiuolo* in Italian, *phaseole* in French, are used for the *P. vulgaris*. It is so easy for a name used in a specific sense to remain while the forms change, as is illustrated by the word squash in America, that we may interpret these names to refer to the common form of their time, to a *Dolichos* (even now in some of its varieties called a *bean*) in ancient times and to a *Phasiolus* now.

Theophrastus² says the *dolichos* is a climber, and bears seeds, and is not a desirable vegetable. I find no other mention of a climber in the ancient authors. The word *dolichos* seems to be used in a generic sense. Theophrastus says *the his dolichos*, the intensive *z* being used after the *o*; but the *dolichos* of Galen is the *faselus* of the Latins, for he says that some friends of his had seen the *dolichos* (a name not then introduced at Rome) growing in fields about Caria, in Italy. We may hence be reasonably certain that the pole beans which were so common in the sixteenth century were not then cultivated.

The English name *kidney beans* is derived evidently from the shape of the seed. Turner, 1551, is the first use of this name I note; but they were not generally grown in England until quite recent times. Parkinson, in 1629, speaks of them as oftener on rich men's tables, and Worlidge, in 1683, says that within the memory of man they were a great rarity, although now a common delicate food. The French word *haricot*, applied to this plant, occurs in Quintyne,³ 1693, who calls them *aricos* in one place, and *haricauts* in another. The word does not occur in "Le Jardinier Solitaire," 1612, and Champlain,⁴ in 1605, uses the term *febues du Bresil*, indicating he knew no vernacular name of closer application. De Candolle⁵ says the word *araco* is Italian,

¹ De Candolle, Orig. of Cult. Pl., 278.

² Theophrastus, c. 3. Bodæus a Stapel, 1644, 914.

³ Quintyne, Comp. Gard., 1693, 185, 142.

⁴ Champlain, Voy. Prince Soc. Ed., 64. ⁵ De Candolle, Orig. of Cult. Pl., 274.

and was originally used for *Lathyrus ochrus*. It is apparently thus used by Oribasius and Galen.

The two species of Linnæus, *Phaseolus vulgaris* and *P. nana*, correspond to the popular grouping into pole and dwarf beans. But there is this to be remarked, that Linnæus synonymes for *P. nana* apply to a *Dolichos*, and not to a *Phaseolus*, for the descriptions of *Phaseolus vulgaris italicus humilis s. minor, albus cum orbita nigricante* of Bauhin's¹ history answer well to the cow pea, as also does C. Bauhin's² *Smilax silique sursum rigente s. Phaseolus parvus italicus*, and do not apply to the bush bean. The figures given by Camerarius³ in 1586, by Matthiolus,⁴ 1598, and by Bauhin, 1651, are all cow peas, although the names given are those used for the true bean, thus indicating the same confusion between the species and the names which kept pace with the introduction of new varieties of the bean from America, for Pena and Lobel,⁵ in 1570, say that many sorts of *fabas Pheseolosve* were received from sailors coming from the New World.

Phaseolus nana L.

The first figure I find of the bush bean is by Fuchsius,⁶ in 1542, and his drawing resembles very closely varieties that may be found to-day,—not the true bush, but slightly twining. In 1550, Roszlin⁷ figures a bush bean, as does Matthiolus⁸ in 1558, Pinæus⁹ in 1561, and Dalechamp¹⁰ in 1587. Matthiolus says the species is common in Italy, in gardens, and oftentimes in fields, the seed of various colors, as white, red, citron, and spotted. Dalechamp figures the white bean. The dwarf bean is not mentioned by Dodonæus¹¹ in 1566 nor in 1616. A list of varieties cultivated in Jamaica is given, in 1837, by Macfadyen,¹² which includes the one-colored black, yellow, red, etc.; the streaked, in which the seeds are marked with broad, linear curved spots; the variegated, the seeds marked with rubiginose, leaden, etc., more or less rounded spots; and the saponaceous, with the back of

¹ Bauhin, Hist., 1651, ii. 258.

² Bauhin, Pin., 1623, 339.

³ Camerarius, Epit., 1586, 212.

⁴ Matthiolus, Op., ed. Bauhin, 1598, 341.

⁵ Pena and Lobel, Adversaria, 1570, 394.

⁶ Fuchsius, De Stirp., 1542, 708.

⁷ Roszlin, Kreuterbuch, 1550, 149.

⁸ Matthiolus, Comm., 1558, 237.

⁹ Pinæus, Hist. Plant., 1561, 140.

¹⁰ Hist. Gen. Lugd., 1587, 472.

¹¹ Dodonæus, Frument., 1566.

¹² Dodonæus, Pempt., 1616.

¹² Macfadyen, Jam., i. 283.

the seeds white, the sides and concavity marked with spots so as to resemble a common soap-ball.

Gerarde,¹ 1597, does not mention this bean in England, but it is mentioned by Miller,² in 1724, in varieties which can be identified with those grown at the present time, five in all. In 1765, Stevenson³ names seven varieties; in 1778, Mawe⁴ names eleven. In 1883, Vilmorin⁵ describes sixty-nine varieties and names others.

Phaseolus vulgaris L.

Pole beans are figured by Tragus⁶ in 1552, who speaks of them as having lately come into Germany from Italy, and he calls them *welsch* or foreign, and he enumerates the various colors, as red, purplish white, variegated, white, black, and yellowish. Dodonæus⁷ in 1566 and 1616 figures the pole bean, as does Lobel⁸ in 1576 and 1591, Clusius⁹ in 1601, and Castor Durante¹⁰ in 1617. In 1597, Gerarde¹¹ figures four varieties in England, the white, black, red, and yellow, and Barnaby Googe¹² speaks of *French beans* in 1572, indicating by the name the source from which they came. In 1683, Worlidge¹³ names two sorts as grown in English gardens, and the same varieties are given by Mortimer¹⁴ in 1708. In France, in 1829, nineteen sorts are enumerated by Noisette,¹⁵ and in 1883, Vilmorin¹⁶ describes thirty-eight varieties and names others.

The bean is called in England *kidney bean*, Turner, 1551, Vilm., 1883; *French bean*, Vil., 1883; *sperage bean*, Ger., 1597, Googe, 1572; *faselles*, *long peason*, *garden smilax*, *Romane beans*, Lyte, 1586; in Denmark, *havebonnen*, Vilm., 1883; in Flanders, *boon*, Vilm., 1883; in France, *febues*, Cartier, 1536, *fasiolis*, Pin., 1561, *haricot*, Quint., 1693, Vilm., 1883, *phaseole*, Vilm., 1883; in Germany, *welsch Bonen*, Fuch., 1542, *Bohne*, Vilm., 1883; in Greece, *fasoulia*, De C., 1883; in Holland, *boon*, Vilm., 1883; in

¹ Gerarde, Herbal, 1597, 1038.

³ Stevenson, Gard. Kal., 1765, 66.

⁵ Vilmorin, Les. Pl. Pot., 250.

⁷ Dodonæus, l. c.

⁹ Clusius, Hist., 1601, ii. 222.

¹¹ Gerarde, Herbal, 1597, 1038.

¹³ J. W. Gent., Systema-Hort., 1683, 197.

¹⁴ Mortimer, The Whole Art of Husbandry, 1708, 456; quoted from Gard. Chron., 1864, 1013.

¹⁵ Noisette, Man., 1829, 361.

² Miller's Dict., 1807.

⁴ Mawe, Gard., 1778.

⁶ Tragus, l. c.

⁸ Lobel, Obs., 1576, 511; ic., 1591, ii. 60.

¹⁰ Castor Durante, Herb., 1617.

¹² Gard. Chron., 1864, 1181.

¹⁶ Vilmorin, l. c.

Italy, *fagiuolo*, Pin., 1561, Vilm., 1883; in Portugal, *feijao*, Vilm., 1883; in Spain (in Castile), *arvejas luengas*, (in Aragon) *judias*, Oviedo, 1546, *faxones fexoes*, *frejoles*, Navarrete, about 1500, *fasiolos*, Cam., 1586, *habichuela*, *judia*, *frijol*, Vilm., 1883; in Sweden, *Turkiska boner*, Tengborg, 1764.

In India, in Hindustani, *bakla*, *loba*; in Ceylon, *dambala*, Birdwood; in Cochin China, *dau tlang*, *tau*, Lour.

In America, the Northern Algonquins, *tuppuhquam-ash*,—i.e., twiners, Elliott; in Carib, *calaouana*, Breton's Dict.; in Chahta, *tobi*, Gray; in Chippeway, *miskodissimin*,—i.e., red-dyed seed, Gray; in Dakota, *onmnicha*, Gray; in Delaware, *malachxit*, Zeisberger; in Huron, *ogaressa*, Sagard; in Kennebec Abnaki, *a'teba'kive*, Rasle; in Mohawk, *osaheta*, Gray; Mojave, *se-van*, Whipple; in the Narragansett, *monasquisset* (singular), Cotton, *manusquused-ash* (plural), R. Williams; in Onondaga, *onsahita* and *hosahita*, Shea; in Pequod, *mushquissedes*, Stiles; in Peru, *purutu*, de Vega; on the St. Lawrence, *sahe*, Cartier; the Shawanoes of Ohio, *m'skochi-tha*, Gray; the Cheyenne, *monisk* or *monehka*, Hayden; in Virginia, *okindjier*, Haricot, *peccatoas*, *peketarwes*, Strachey; ¹ Yuma, white beans, *marique*, Whipple.

In Mexican, *etl* of the Aztecs; when boiled in the green pod *exotl*, Bancroft.

It should not be overlooked that this bean has been found in the ancient Peruvian tombs at Ancon;² that Verarzanus,³ an Italian, in 1524, previous to the recorded introduction of the bean to Italy, in describing those met with on the New England coast, says, "differing in colour and taste fro' ours, of good and pleasant taste;" and Harriot,⁴ in 1586, when kidney beans were scarcely in general culture in England, notes in Virginia that the beans are different from those of England in that they are "flatter, of more divers colours and some pied. The leaf also of the stem is much different."

¹ These Indian names mostly taken from Gray and Trumbull, Am. Jour. of Sc., August, 1883.

² Stevenson, Trav., i. 328; De Candolle, Orig. des Pl. Cult., 273.

³ Verarzanus, Hakluyt, Divers Voy. to Am., 60.

⁴ Harriot, Pink. Voy., xii. 595.